Report of the Governor's Gasoline Price Task Force

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EXECUTIVE SUMMARY

The Governor's Task Force on Gasoline Prices was established on June 23, 2000 to determine why gasoline prices rose so high during May and June 2000, who profited from the higher prices and whether illegal activity occurred. The Task Force is chaired by Attorney General Jay Nixon and includes the Department of Economic Development (DED), the Department of Agriculture (MDA) and the Department of Natural Resources (DNR).

The Task Force has held five hearings in St. Louis, Kansas City, Malden and Jefferson City(2) during June and July to better understand why gasoline prices rose so quickly this summer. The Task Force heard testimony from various groups and individuals including gasoline retailers, the ethanol industry, various state departments, the oil refining industry and consumers.

The Task Force reports that gasoline prices rose to high levels this summer due in part to increased profit taking by the oil refining industry. The refineries and the crude oil industry profited the most from the price increases although the Task Force uncovered no specific evidence of illegal activity.

How Expensive Did Gasoline Get?

On June 15, 2000, gasoline prices rose to historic levels in Missouri with the average statewide price for regular unleaded gasoline reaching $1.70 per gallon. The price in the Kansas City region topped out at just under $1.80 per gallon, the highest price ever recorded for gasoline in the state. The first hearing of the Task Force was held on June 28, 2000. Subsequently, the price of gasoline has consistently fallen and, as of August 7, the average cost of regular unleaded gasoline was $1.33, or 22 % less than the average price on June 15. During this period of high prices, regional price differences within Missouri were exacerbated, with price spreads reaching as much as 22 cents per gallon between various regions.

High gas prices are a threat to Missouri's economy, if they continue over extended periods. Even a nickel increase for a gallon of gasoline, sustained over a year, will cost Missouri consumers more than $60 million and potentially displace other consumer spending.

Why Did Gasoline Prices Go So High?

Several factors contributed to the huge gasoline price increases experienced in May and June 2000. Major factors were the increased cost of crude oil compared to 1999 prices and profit taking at the refinery level. The increased cost

of crude oil occurred when the Organization of Petroleum Exporting Countries (OPEC) decided to limit oil production, thereby setting a higher price. OPEC is a cartel of nations which confers on the amount of crude oil to produce, a practice which would be blatantly illegal in the United States.

Refiners also increased their profits this period as gasoline supply was running low compared to previous years. They offer various reasons for reductions in supply, although all evidence indicates that there was never a shortage of gasoline to the extent that consumers were faced with a scarcity. Some of the reasons for reduced supply include intentional reduction of supply by the oil companies in order to switch over to summer grade conventional and reformulated gasoline (RFG) and disruption in the flow of gasoline through a pipeline that connects a number of southern refineries to Missouri. These events were exacerbated by the fact that federal requirements for different types of gasoline in different areas of the country tend to negatively impact a refiner's storage capacity.

The Task Force heard testimony concerning the effect of Reformulated Gasoline (RFG) on price, but finds that the St. Louis RFG requirement, in and of itself, does not significantly increase the costs to produce gasoline over and above the four to eight cents per gallon estimated by the EPA. In fact, a AAA survey in early July found that the average cost of St. Louis RFG was $1.61 per gallon, while conventional unleaded gasoline in Kansas City was priced at $1.62 per gallon.

Also, the Task Force heard testimony about the use of ethanol in gasoline and its potential, with two new Missouri ethanol plants coming on line, to provide an increase in future gasoline supply to Missourians at competitive costs to other gasoline blends. Because no crude oil is refined into gasoline in the state of Missouri, consumers must rely on out-of-state refiners for their motor fuels. However, Missouri, an agricultural state, is currently building ethanol plants to lessen its dependency on non-domestic produced engine fuels.

Who Profited?

Oil producers and refiners clearly enjoyed the greatest profit of any domestic parties involved in the production and transportation of gasoline. According to one industry analyst, oil company profits are expected to increase an average of 153% during the second quarter of 2000 compared to the second quarter of 1999. Specific examples of oil company profit increases include: ExxonMobil profits increased 123% in this quarter as compared to the same quarter last year. Phillips Petroleum profits increased from $108 million in the

second quarter of last year to $439 million in the same quarter of 2000. Conoco posted similar earnings of $460 million as compared to $114 during last year's second quarter.

Were the Laws Followed?

The Task Force uncovered no evidence of illegal activity during its hearings. Generally, there appears to be a high level of competition at the retail level, which helps keep retail profits down. At the transportation level, distribution of both crude oil and refined gasoline is regulated by the Federal Energy Regulatory Commission (FERC), which controls the price that may be charged and thereby negates opportunities for anti-competitive behavior. The Task Force did hear testimony concerning concentration at the pipeline and refinery levels in the form of mergers and/or joint ventures between competitors. Increasing consolidation in the oil industry is reason for concern and should be monitored closely. OPEC is a cartel that would be in violation of American anti-trust laws, but is obviously not subject to those laws.

I. How Crude Oil Becomes Gasoline - From the Ground to the Pump

To understand the factors that impact the price of a gallon of gasoline, it is first necessary to understand the steps to produce and market gasoline. These steps include: 1) crude oil exploration and production; 2) transportation of crude oil to refineries; 3) refining of crude oil into various products, including gasoline; 4) transportation of the refined gasoline to storage terminals; 5) sale of gasoline at the terminal to wholesalers or jobbers; 6) sale of gasoline from wholesalers to retailers; and 7) sale of gasoline from retailers to consumers.

Crude Oil: Crude oil is the natural resource used to make gasoline. The United States produces almost half of its own crude oil; most of the rest of our crude is imported from OPEC. Because OPEC produces about 40% of the world's oil and holds more than 77% of world oil reserves, it is in a position to set prices for crude oil worldwide. If OPEC increases production, crude oil prices drop; if it decreases production, oil prices go up.

While the U.S. produces a significant amount of its own oil, our reserves are considered "mature" because drilling has been ongoing since the 1920's which has left us with fewer known reserves compared to other countries. If this trend continues, it is possible that the U.S. will be more dependent on foreign oil in the future.

Transportation of Crude to Refineries: Once crude has been pumped from the ground, it must be transported to a refinery. Most of our oil is transported by ship and pipeline. Pipelines are used to transport oil from ports of entry to inland refineries. For example, one refinery in Wood River, Illinois, just across the river from St. Louis, receives crude oil via two pipelines. One of these, the CAP Line, is jointly owned and maintained by several oil and pipeline companies. The cost of transporting crude oil through a pipeline is regulated by FERC.

Domestic oil may take about two weeks to reach a refinery; foreign oil may take up to 45 days to reach that same refinery.

Refining Crude Oil into Gasoline: Refiners take the crude oil and make various products including: 1) propane; 2) butane; 3) jet fuel; 4) diesel fuel; 5) asphalt; 6) petrochemicals; and 7) gasoline. While some refiners make only various grades of conventional gasoline, other refiners make a number of different types of gasoline, including various types of RFG. What a refiner chooses to make depends on the demand in the market. For example, a number of refineries in the Midwest now

make RFG because a number of cities, including Chicago, Milwaukee and St. Louis, require its use during the summer months. As a result, about one-third of all gasoline produced in the U.S. is now reformulated.

Refiners that make RFG must also make allowances for storing the product. Because RFG contains different components than conventional gas, it must be stored separately.

Refiners control the amount of gasoline they produce. Some refineries have recently increased their capacity for producing gasoline by 10-15%. In addition, Midwest refineries have been running near 100% of their capacity this year, significantly higher than last year's utilization rates. By producing more gasoline, refineries have been able to compensate for any previous supply disruptions and take advantage of the recent high gasoline prices.

Transporting Refined Gasoline to Terminals: Once produced, gasoline is transported via tanker, barge or pipeline to various terminals where the product may be stored and sold to wholesalers. In Missouri, finished product may be barged up the Mississippi River or brought in via pipeline. The Missouri River is too shallow for gasoline to be barged on it. This means that some Missouri terminals, like Cape Girardeau, have more supply relative to other terminals because Cape Girardeau can receive refined gasoline via barge and pipeline which, as prices have climbed, has led to differences in the terminal prices within Missouri.

The vast majority of gasoline that is brought to Missouri is transported by pipeline. Two major pipelines that serve Missouri are the Williams Pipeline and the Explorer Pipeline. The Williams Pipeline is owned by the Williams Companies, based in Tulsa, OK, while the Explorer Pipeline, like the CAP line for crude oil, is a joint venture between eight oil companies and is also based in Tulsa.

The Explorer Pipeline can carry up to 317,000 barrels of gasoline per day (or over 13 million gallons) over the portion of the pipeline that travels through Missouri. When the Explorer Pipeline suffered a break near Greenville, Texas in early March 2000 no product could be piped for one week and thereafter gasoline could only be piped at 80% of the line's capacity. This loss of product caused some short-term supply deficiencies and spot outages at some Missouri terminals.

While the Williams Pipeline did not suffer any similar breaks, it receives some of its product directly from the Explorer Pipeline for transport through Missouri.

Therefore, the Explorer break directly impacted both of the major pipelines that serve Missouri.

Sale at the Terminal: Once gasoline reaches the various terminals in Missouri, it is sold to wholesalers or jobbers who buy it and transport it for sale to the retailers. The Task Force obtained three months of data from the Lundberg Survey, a survey that tracks wholesale prices, to see how wholesale prices changed while retail prices were rising.

The Task Force obtained wholesale unleaded gasoline prices for selected Missouri cities for the period April 7, 2000 to July 7, 2000. The Task Force focused on two terminal locations: Jefferson City, where retail prices during the period were higher than the state average, and Cape Girardeau, where retail prices were lower than the state average.

The Task Force tracked the average wholesale price for various branded and unbranded conventional gasolines between April 28, 2000, as retail prices were beginning to rise, and July 7, 2000, after prices had begun to fall. See Table 1. The Task Force found that as prices rose in May and early June, the gap between the average wholesale price in Jefferson City versus the average wholesale price in Cape Girardeau increased from about five cents on April 28 to just over twenty cents on June 9. While prices at both locations rose during the period, the price increase at Jefferson City was far more dramatic (about forty cents) while the increase in Cape Girardeau was more moderate (about twenty-two cents).

At the end of the period of rising prices (June 9 to June 23), the average wholesale price in Jefferson City fell slightly while the average Cape Girardeau price continued to rise. By June 23, the wholesale price differential fell to about ten cents.

When retail prices began to stabilize and then fall in mid to late June, the gap between wholesale prices in Jefferson City and Cape Girardeau continued to narrow. By July 7, the last date the Task Force surveyed, there was less than a five cent difference between wholesale prices at the two cities.

Based upon the information obtained from this survey, the Task Force concludes that: 1) wholesale prices rose significantly between May 1, 2000 and June 15, 2000 before falling back somewhat; 2) there was a more pronounced difference between wholesale prices at various terminals as retail prices were peaking; and 3) as retail prices fell, the difference between wholesale prices fell back to pre-peak levels.

Sale to Retailers: The wholesalers sell gasoline to retailers. While the Task Force did not receive any data about the price retailers pay for gasoline, testimony from retailers indicated that the margin between the price they pay for gas and the price they sell gas had not changed with the rising prices. Moreover, because many retailers have to pay a flat 2 ½ cents per gallon on credit card transactions, more expensive gas prices did not result in a savings to retailers.

Sale to Consumers: Ultimately, retailers sell gasoline to both commercial and individual consumers. The next section discusses retail prices in Missouri during the past few years.

II. Overview of Gasoline Costs

It may be helpful to understand the four components that determine the price of a gallon of gasoline. These are:

- Crude Oil
- Refining costs and profits
- Distribution, marketing and retail costs and profits
- Taxes

Chart 1 shows how the retail price of a gallon of gasoline for 1999, May 2000 and June 2000 is distributed among these four components. In May and June 2000, 43 percent of the cost is attributable to crude production and delivery to the refinery, up from 37 percent in 1999. Another 20 to 22 percent goes to the refinery for costs and profits, which is an increase from the 13 percent share in 1999. Conversely, the percentage attributed to distribution, marketing and retail costs and profits decreased from 14 percent in 1999 to 9 percent in May and June 2000. Finally federal and state taxes on gasoline make up the remainder. Because taxes remained constant, they represented a smaller percentage of the cost of gasoline in May and June 2000 as compared to 1999.

Missouri Retail Prices for Regular Unleaded Gasoline

The energy outlook for the U.S. and Missouri appears set for continued energy supply and price volatility. Gasoline prices in Chicago and Milwaukee were averaging more than $2.00 per gallon in June 2000. Natural gas prices surged as Summer 2000 began due to a confluence of factors raising concerns over the ability of supply to meet peak summer demand. Natural gas was trading for $4.25

per therm on the New York Mercantile Exchange, which is nearly double the January 2000 price. U.S. propane inventories are about 13 percent lower than last year at this time, and inventories in the Midwest are at their lowest point since 1970. Propane prices in Missouri are nearly 40 percent higher than prices for this time last year. And although Missouri uses very little heating oil, supply shortages in the Northeast, such as those that occurred last year, could affect heating oil and transportation diesel supplies in other regions.

Missouri's population is expected to increase slowly but steadily over the next decade, from about 5.5 million persons in 2000 to about 5.8 million persons in 2010. Recent data indicates that demand for transportation fuel has been increasing faster than population growth.

The following discusses the upward and downward movement of retail gasoline prices in Missouri since January 1994, with special attention to the significant price increase that occurred beginning in January 2000 and a comparison of price differences between regions of Missouri during this period.

The primary source of retail gasoline price data is the Department of Natural Resources Energy Center's bi-monthly fuel price survey. Transportation fuel price data is collected by telephone from a number of retail stations located around the state. Telephone surveys are generally conducted twice a month, but in light of the extreme price volatility that has occurred in recent months, three surveys were conducted in June 2000 and four surveys were conducted in July 2000. To preserve confidentiality, price data from individual retail stations is averaged and reported by region.

This and other price information for transportation fuels, propane and heating oil is published in the *Missouri Fuels Bulletin.* The *Bulletin* is available in hard copy or by fax and is posted at the following web address:
www.dnr.state.mo.us/de/transportation.

The transportation fuels survey includes prices for gasoline, diesel, reformulated gasoline, ethanol (E-85) and compressed natural gas. The following discussion focuses on retail prices for regular unleaded gasoline.

Statewide Average Prices

Between 1994 and November 1998, retail gasoline prices in Missouri varied between 85 cents per gallon and $1.20 per gallon. Late in 1998, the average retail price in the state dropped to about 82 cents per gallon and stayed there until March 1999, when

the average price jumped by nearly 20 cents to about $1.00 per gallon. From March 1999 through December 1999, prices rose gradually with relatively little fluctuation, peaking at about $1.18 per gallon in December 1999 and ending the year at about $1.10 per gallon.

After January 2000, gasoline prices became much more volatile, rising and falling precipitously. Missouri statewide average price for regular unleaded gasoline peaked in early March at $1.46, 76 percent higher than in March 1999; dropped to $1.29 in early May, about 26 percent higher than in May 1999; then rose again to $1.70 in mid-June, a record high that was 67 percent higher than the average price in mid-June 1999.

Since mid-June, prices have decreased again and averaged $1.33 in the Energy Center's most recent price survey dated July 31, about 22 percent higher than a year ago.

Table 1 - Statewide and regional average retail prices and price spreads for regular gasoline on selected survey dates

	1/4/99	6/24/99	1/3/00	3/6/00	5/1/00	6/15/00	7/17/00
West Plains	0.947	1.044	1.189	1.444	1.369	1.574	1.547
Kansas City	0.781	1.019	1.159	1.457	1.242	1.789	1.477
Central	0.801	1.029	1.155	1.455	1.285	1.711	1.463
St. Louis	0.821	1.039	1.222	1.439	1.376	1.719	1.462
Cape Girardeau	0.795	1.005	1.185	1.467	1.309	1.573	1.441
Northeast	0.845	1.030	1.172	1.479	1.312	1.699	1.432
Southwest	0.799	1.009	1.103	1.402	1.229	1.724	1.409
Northwest	0.843	1.023	1.167	1.471	1.261	1.763	1.393
Springfield	0.785	0.980	1.119	1.459	1.246	1.708	1.372
Missouri	0.826	1.015	1.106	1.457	1.285	1.698	1.434
High price in	0.947	1.044	1.222	1.479	1.376	1.789	1.547
Low price in	0.781	0.980	1.103	1.402	1.229	1.573	1.372
Spread	0.166	0.064	0.119	0.077	0.147	0.216	0.175

It should be noted that gasoline prices prevailing in late 1998 and early 1999 were at an historic low. The statewide average retail price for a gallon of gasoline in early January 1999 was 82 cents per gallon. One consequence of the low prices prevailing in late 1998 and early 1999 was a drop in gasoline inventories, and this drop most likely contributed to supply disruptions and price volatility experienced this year.[1]

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[1] The U.S. Department of Energy, Energy Information Administration (EIA) reports that several factors contributed to low gasoline inventories. First, there has been a long-term movement in the oil industry to decrease storage and use "just-in-time" inventory practices to save costs. Second, world oil demand has recently exceeded production, reducing world inventories of product. Third, the limited capacity of the U.S.

Therefore, at least some of the upward price movement since January 1999 must be considered a necessary adjustment of an abnormally and unsustainably low price for gasoline.

On the other hand, the price levels reached in June 2000 also cannot be considered normal for Missouri. Historically, Missouri motorists have enjoyed retail gasoline prices several cents below the national average. In June 2000, Missouri's average price matched the national average, which is an extremely rare occurrence.

Regional Price Differences

Statewide averages do not tell the whole story of retail gasoline prices in Missouri, since retail prices varied widely between different regions in the state. Table 1 illustrates this point by presenting the maximum regional average price in the state, the minimum, and the "price spread," which is the difference between the maximum and minimum regional average price during a survey period.

Some level of regional price differential – though not necessarily all -- may be explained by the following factors:

1) Different physical proximity to terminals and supply infrastructure;

2) The ability of areas with high population density to sustain a higher level of retail competition;

3) The higher cost of marketing and distribution in areas with low population density; and

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refinery system probably has been strained by continuing growth in the number of distinct gasoline types that must be delivered to different locations.

Low product prices contribute to low inventory levels because the low product prices of the recent past discouraged refinery production. Some independent refiners could not do business at a profit and had to shut down operations, thus adding to downward pressure on inventories. The effect was exacerbated in 1999, as markets tightened and crude oil prices rose faster than product prices, squeezing refinery margins and discouraging refinery production of all products.

According to EIA's analysis, where the wholesale margins were low last year, they are now high at about 20 cents per gallon, 14 cents higher than in June last year. That is, the low gasoline inventories are probably adding about 10 cents per gallon to the price of gasoline over what we would typically expect this time of year.

4) The position of resellers and retailers as price takers who purchase from different prime suppliers in different regions of the state.

The data suggests that retail price spreads in Missouri since January 1999 fall into three distinct periods:

January 1999 through mid-March 1999 -- Unique circumstances in one region:
During this period, the average price spread was 14 cents per gallon, due primarily to relatively high prices in West Plains, where average retail prices were 5 to 10 cents higher than in the next highest priced region in the state. The relatively high retail prices in West Plains probably reflects its rural location and distance from terminals and may reflect other supply factors such as the terms of contracts with petroleum resellers. In April 1999, when prices increased throughout the state, prices in West Plains moved more nearly into line with prices elsewhere in Missouri. Factoring out West Plains, the spread between the high and low price in the other regions of the state averaged about 7 cents per gallon.

April 1999 through December 1999 -- Price stability and normal price spread:
During this period, the price spread averaged about 9 cents per gallon. This probably represents a normal price spread during a period of price stability. The price spread exceeded 10 cents on only one occasion, in December 1999, when local retail prices in St. Louis were about 14 cents higher than retail prices in Springfield.

The price spread during this period was not dominated by pricing patterns in any one region. The state's high average price was recorded 8 times in West Plains and 8 times in St. Louis, where due to environmental considerations retail stations sell reformulated gasoline (RFG), which is often a few cents per gallon higher than conventional gasoline. The statewide low average price was recorded 10 times in Springfield or southwest Missouri and 6 times in Cape Girardeau. The frequency of low prices in the latter regions is probably due to supply conditions such as proximity to terminals served by a particular refiner or wholesaler with excess supply of product or stability of supplies.

Kansas City once recorded the high average price (in early August, when Kansas City prices were about 6 cents higher than in Cape Girardeau) and once recorded the low average price (in early November, when Kansas City prices were about 9 cents lower than in West Plains).

January 2000 to present -- Price volatility and frequent large price spreads
As described in Table 2, the period since January 2000 has seen two major cycles of gasoline price increases (Steps 2 and 6 in the table) followed by price decreases (steps

4 and 8). There has been similar cyclical volatility in the spot price of crude oil, which is one of the primary determinants of retail price.[2]

The cumulative result of these cycles has been to ratchet up the average state retail price for regular unleaded gasoline by about 30 percent compared to average price at the start of the year. Another consequence of this volatility is that not all regional prices have moved in tandem, resulting in unusually large spreads between the highest and lowest average regional price reported on any given date.

Table 2 – Cyclical movements of statewide average retail gasoline prices and crude oil spot prices, January 3 through July 17, 2000.

	Price spread (cents)	Average statewide retail price ($/gallon) - regular UL gasoline	Crude oil spot price (dollars per barrel) - WTI Cushing *
1. Start (1/3)	11.9	1.106	25.56
2. Upward swing	9.6 *		
3. High point	7.7	1.457	32.19
4. Downward	17.0 *		
5. Turning point	14.7	1.285	25.84
6. Upward swing	18.8 *		
7. High point	21.6	1.698	32.70
8. Downward	12.4 *		
9. Current (7/17)	17.5	1.434	31.31

** Average during upward or downward swing, including next turning point*

As described in Table 1, the most extreme price spread between Missouri regions was recorded in the June 15 survey. Between June 5 and June 15, retail prices in Kansas City increased 19 cents to an average price just under $1.80 per gallon, the highest regional average price ever recorded in an Energy Center survey and about 22 cents

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[2] The U.S. imports approximately 50 percent of its crude oil, thus domestic and foreign crude oil production levels are extremely important in determining market price that consumers pay at the retail level. In April 1999, the Organization of Petroleum Exporting Countries (OPEC) announced a planned oil production decrease, which was a significant event that set a course toward much higher crude oil prices through the last half of 1999 and into 2000. Crude oil prices have more than doubled, and at some points nearly tripled, since early 1999. Crude oil prices continue to hover around the $30 per barrel mark. In response to OPEC crude oil production cuts in April 1999, daily spot prices for West Texas Intermediate peaked at $33.90/barrel on March 7, 2000, dropped to $23.91 on April 10 and have been in the $28 to $33 range since May 8.

greater than the lowest regional price on June 15, $1.57 per gallon in Cape Girardeau. The statewide average price on June 15 was about $1.70 per gallon.

In a period of price stability, one would expect regional price spreads to fall within a normal range of less than 10 cents. A period of price volatility creates circumstances where large price spreads can occur. For the most part, the large spreads that we have experienced have not been due to prices increasing in one region and decreasing in another. Most price movements have been in the same direction. The large spreads have occurred under two circumstances: (a) prices in some regions are relatively fluid whereas in others they are "sticky"; and (b) in regions where price movement is fluid, the timing of the price movements has sometimes been out of phase by days or even weeks.

The two regions that have given most evidence of "sticky" prices are West Plains and Cape Girardeau; both located in southeastern Missouri. West Plains has already been discussed. The Governor's Task Force heard testimony on the unique circumstances in Cape Girardeau during the most recent pricing cycle, where the local terminal persisted in selling product at a price far below the state average.

The Task Force has also heard testimony on unique circumstances regarding supply and price issues in St. Louis, where due to environmental requirements only RFG may be sold. Supplies and prices of RFG will be discussed in a later section of this report.

While the data to fully explain recent price movements in other regions is not publicly available, economic theory suggests three factors might have contributed to the recent price differentials and volatility.

First, evidence indicates that there has been a real shortage of supply available to resellers and retailers in Missouri, for whatever reason(s). According to Energy Information Administration (EIA) data, Midwestern inventories of gasoline in early May 2000 were 15 percent below stocks in May 1999 and 10 percent below the previous low recorded in May 1996. Most product coming into Missouri moves by pipeline to marketing terminals. From there, most product is transported directly to retailer storage tanks, but some product goes to bulk plants or other intermediary storage facilities.

Since there are about 20 marketing terminals in Missouri fed by a dozen different pipelines, and different regions draw on different supply sources, there are ample opportunities for a differentiation of the supply conditions for different regions in state. Reseller and retailer testimony indicates that the severity of supply shortages varied between different terminals. If supply conditions vary among the regions,

economic theory would predict that price would also vary among the regions, since price is primarily set by supply and demand.

Second, the available data indicates that demand for gasoline in Missouri is strong and relatively price inelastic. The most recent gasoline consumption data available from the EIA and the Missouri Department of Revenue indicate that through April, Missouri's consumption of gasoline has continued to increase relative to a year ago despite increases and fluctuations in price. According to economic theory, when there is high demand and limited supply for a product, price should increase. When the demand is relatively inelastic, the impact on price should be relatively large. If different regions face different supply conditions, a relatively large impact on the price spread between different regions could be expected.

Third, the dominance of independents in Missouri's gasoline retail industry may have also impacted price. In economic theory, when gasoline supply is plentiful, the presence of independents should tend to keep average gasoline prices down because: (1) to the extent that they do not rely on brand loyalty to attract customers, they are likely to engage in aggressive price competition; and (2) to the extent that they are not tied into contracts with suppliers, they are likely to shop among all resellers in the market for the best available supply price.

On the other hand, when gasoline supply is relatively scarce, the dominance of independent retailers probably adds to price volatility. In this case, greater competition could actually lead to greater retail price increases because independent retailers who do not have the luxury of an assured supply at an assured price would be likely to bid up the supply price of the limited product that is available and then pass the increase along in the retail price.

Reformulated Gasoline (RFG)

RFG was required by the Clean Air Act Amendments of 1990 in nine major metropolitan areas with the worst air quality problems. Other areas with air quality problems are allowed to "opt-in" to the RFG program. The St. Louis region is the only ozone non-attainment area in Missouri and is the only area of the state using RFG. Phase I RFG (1995-1999) had to reduce emissions of volatile organic compounds (VOC), which lead to harmful ozone formation, by at least 15 percent over conventional gasoline. The Phase I fuel also decreased toxic emissions by 15 percent and held emissions of nitrogen oxides steady.

Phase II RFG was required to be sold at retail stations in RFG areas June 1, 2000. Summer grade Phase II RFG is a modified formulation, which is required to meet more stringent performance criteria than Phase I RFG, by reducing VOC emissions by 25 percent, air toxic emissions by 20 percent, and nitrogen oxide emissions by 5 to 7 percent.

RFG Prices

Testimony from oil industry representatives before the Task Force often referred to EPA fuel regulations requiring many different fuel variations as reason for much of the gasoline price increases. However no testimony was given as to how much of the price increase was attributed to RFG, or that disputed EPA's estimate that it costs 4 to 8 cents more per gallon to produce Phase II RFG when compared to conventional gasoline. Studies from Bonner & Moore Associates and Oak Ridge National Laboratory confirm these estimates.

There are 8 different summer grade gasoline fuel grades required in Missouri: [3]

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[3] Per Federal and State Regulations, an additional 1.0 psi is allowed for conventional gasoline containing 9-10% ethanol by volume. This 1.0 psi RVP waiver is not allowed per federal RFG regulations, even if 9-10% ethanol is used to satisfy other RFG requirements.
Per Federal Phase II Volatility Regulations (for conventional gasoline areas), all persons other than retailers and wholesale purchasers-consumers (i.e., refiners, importers, terminals, bulk stations, distributors, as well as petroleum and petroleum products wholesalers) must comply with the 9.0 psi Reid Vapor Pressure (RVP) gasoline requirement by May 1 of each year. Per federal RFG regulation (40 CFR 80.78(8)), "no person may combine any VOC-controlled reformulated gasoline that is produced using ethanol with any VOC-controlled reformulated gasoline that is produced using any other oxygenate during the period January 1 through September 15." In summary, no summer-grade RFG made with ethanol may be combined with any summer-grade RFG containing any other oxygenate. If conventional gasoline supplied to a distribution area does not contain any oxygenates (other than ethanol), there is no need for separate tanks for ethanol blended conventional gasoline and nonoxygenated conventional gasoline. If ethanol is blended in conventional gasoline at levels of 9-10% by volume, limits on oxygen content prohibit the presence of other oxygenates in the same fuel. Currently, there is no federal or state requirement that conventional gasoline in Missouri contain oxygenates. Although RFG must contain 2.0 weight percent oxygen per federal statute and regulation, EPA does not require the use of a specific oxygenate or a specific market share for different oxygenates. For example, refiners and suppliers to a particular RFG covered area could use all ethanol blended RFG, thereby reducing the number of

- 2 grades [regular grade and premium] for 9.0 pounds per square inch (psi) conventional gasoline (CG),

- 2 grades for 7.2 psi CG and

- 4 grades for RFG (2 grades for ethanol-blended RFG and 2 grades for MTBE (methyl tertiary butyl ether)-blended RFG).

Note: If the blendstock for ethanol-blended CG is segregated from other CG (containing MTBE or other oxygenates), there would be 4 more grades, for a total of 12 grades statewide. These would be comprised of (2 additional grades each for 9.0 psi CG and 7.2 psi CG). See Footnote 3.

Geographic distribution of the 8 fuel grades:

Outstate Missouri – 9.0 pounds per square inch (psi) Reid Vapor Pressure (RVP) Conventional Gasoline (CG) (control period May 1 (terminals) – September 15 of each year). This is required in EPA Phase II Volatility Requirements (for air quality attainment areas).

Kansas City area (Clay, Platte, and Jackson Counties) – 7.2 psi RVP CG (control period June 1-September 15 of each year)
Per MDNR-Air Pollution Control Program state regulation approved by EPA

St. Louis area (St. Louis City and Franklin, Jefferson, St. Charles, & St. Louis Counties) – Federal Reformulated Gasoline (RFG) (control period – year round with summer and winter grade requirements). This is required in EPA RFG regulations.[4]

If ethanol is used in the RFG, a special blending stock is required before ethanol can be blended, creating an additional cost. Chicago and Milwaukee currently use ethanol-blended RFG. St. Louis also receives some ethanol-blended RFG. Despite the somewhat higher costs to produce, RFG can bear responsibility only for a limited portion of the sizeable gasoline price increases experienced this spring and summer.

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different fuels (and corresponding storage tanks) necessary for an area.

[4] Illinois Requirements:
St. Louis area (Madison, Monroe, & St. Clair Counties) - 7.2 psi RVP CG (control period June 1 - September 15 of each year)
Per Illinois EPA state regulation

RFG has been selling several cents per gallon below the price of conventional gasoline in Missouri in recent weeks, which prompted some distributors to purchase RFG in the St. Louis market and resell it in other areas of the state.

Per AAA, the average retail price for regular grade gasoline in Missouri was $1.62 per gallon as of July 3, 2000. For the same period, the average retail price for regular grade RFG in St. Louis was $1.61 while the average retail price for regular grade gasoline in Kansas City was $1.62. One year ago, the average retail price for regular grade gasoline in Kansas City was $1.08 per gallon and the average price for regular grade RFG in St. Louis was $1.04 per gallon.

Summer RFG 2000 Supplies

RFG represents approximately one-third of the nation's gasoline supply but only about 10% of the Midwest gasoline supply. During the winter of 1999-2000, as much as 40 percent of St. Louis RFG contained ethanol as the oxygenate; the remainder contained MTBE as the oxygenate. Currently, approximately 15 percent of St. Louis RFG is blended with ethanol, due in part to the need for an ultra-low vapor pressure blendstock during the summer months when ethanol is used as the oxygenate.

RFG price and supply problems began in St. Louis following the Explorer Pipeline rupture which occurred in early March 2000. As a result of the impending shortage of RFG at the retail pumps, the U.S. Environmental Protection Agency (EPA) issued three waivers to provide temporary relief from the distribution of RFG in the St. Louis area:

EPA's first waiver was issued March 17–April 3, 2000, with no economic penalties for marketers distributing non-compliant fuel during the fuel shortage emergency. Due to a 3 day delay in the delivery of RFG to St. Louis, the EPA issued a second waiver May 5–May 8 with an economic penalty assessed to any marketer purchasing and reselling non-compliant fuel during the waiver period. This was intended to discourage any economic gains by marketers buying conventional gasoline at a price lower than available RFG and to protect marketers who retained adequate supplies of RFG during the waiver period. EPA issued a final waiver May 18–June 5 with no economic penalties. The intent of this waiver was to build reserve RFG inventories to avoid future shortfalls in delivery by the Explorer Pipeline.

It appears that final waiver, which focused heavily on building RFG supplies in the St. Louis area, succeeded. After June 5, all St. Louis bulk terminals reported substantial inventories of RFG, and terminal operators reported that they expected to supply adequate amounts of RFG throughout the summer.

MTBE is a volatile organic compound that is used as a gasoline additive to enhance octane and also as an oxygenate that helps gasoline burn more cleanly. The air pollution benefits are the reason for its use in RFG. Much of the nation's gasoline, conventional and RFG, contains some MTBE with amounts ranging from 1 percent to 15 percent by volume. Because MTBE is highly soluble in water and travels through ground water faster than the other components of gasoline, it poses a threat to drinking water supplies. The EPA has proposed rules that phase out the use of MTBE in RFG and there are several legislative proposals in Congress to eliminate MTBE in gasoline. The Governor issued Executive Order 00-08 on April 5, 2000 which seeks to phase out the use of MTBE in Missouri after Congress has taken certain actions. If MTBE is phased out, other oxygenates such as ethanol may replace it in RFG. It is also possible that the oxygenate requirement for RFG may be eliminated.

III. Potential Economic Impact of High Gas Prices

The recent increases in gas prices have several potential economic implications. The first implication is a reduction in demand for gasoline. However, anecdotal evidence suggests that the temporary spike in gas prices is not discouraging consumers from driving. For example, a survey conducted by Princeton Survey Research Associates between June 11th and 17th of 2000 indicated that less than half of the respondents would change their travel plans due to the higher gas prices. In addition, according to the Missouri Department of Revenue, during the first five months of 2000, 1.61 billion gallons of gasoline were purchased in Missouri. This is an increase of 5.9% over the 1.52 billion gallons purchased during the first five months of 1999.

Since demand for gasoline is not declining even with the recent price increases, a shift in spending by Missourians away from other products is expected. For private individuals, this might mean purchasing fewer retail goods. For Missouri businesses trying to control variable costs, this might mean purchasing fewer labor hours.

Data from the Missouri Department of Revenue indicates that consumers and businesses purchase nearly 4 billion gallons of gasoline annually in Missouri. Assuming that 30% of this figure (1.2 billion gallons) is for household use, and demand remains constant, an increase of one nickel in gas prices costs Missouri households an extra $60 million per year. Simple economic analysis using the REMI

model[5] indicates that the same nickel increase, held steady over one year, might cost the state approximately 513 jobs due to the shift in consumer spending.

A similar study can be done on the effects of the increased gas prices for commercial users. Assuming that the remaining 70% of total gasoline purchases (2.8 billion gallons) is for commercial use, and demand remains constant, an increase of one nickel in gas prices costs Missouri commercial operations an extra $140 million per year. Simple economic analysis using the REMI model indicates that the same nickel increase, held steady over one year, might cost the state approximately 2,881 jobs due to the increase in variable costs.

A second implication is the reduction in state revenues stemming from reduced gasoline purchases. Again, since demand for gasoline is not decreasing, this is not currently a major threat. Data from the Missouri Department of Revenue, when projected forward, indicate that the state can expect to receive approximately $120 million in state fuels tax revenues if no decline in gas purchases takes place.

A third implication of the higher gas prices is a possible decline in tourism in Missouri. Recent increases in gasoline prices have had mixed effects on Missouri tourism. In core metropolitan areas, there appears to be little negative effect. The Convention and Visitors Bureau of Greater St. Louis reports a 56% increase in tourism inquiries from last year at this time. Further, the Missouri Division of Tourism reports that three major attractions in the St. Louis area have reported that attendance levels are on target.

The impact of high gasoline prices has been felt in recreation/entertainment centers in rural Missouri. Branson has developed a Travel Index that measures the number of visitors to the area. Overall, the travel index is up 1.8% from this time last year. Visitors from the core (0-100 miles away) and primary (100-300 miles away) markets are up 16.4% and 6.4%, respectively. Further, city sales taxes are up 5.75% and tourism taxes are up 6.73%. However, visitors from Branson's outer market (over 300 miles away) are down 4.6% from last year. This is significant in that more than half of Branson's visitors come from this market. Over the course of the travel season, decreases in this outer market may adversely affect Branson's economy.

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[5] The REMI Missouri Model is a comprehensive economic forecasting and policy analysis model. The model incorporates a complete economic history of the state and forecasts data specific to Missouri. The model also has thousands of policy variables that can be used to show the effects of a broad range of economic development policies. The dynamic structure of the model provides the capability to evaluate tax and other changes that affect costs as an aspect of these policies. The dynamic properties of the model show medium- and long-term effects, in addition to short-term effects, on the economy of Missouri.

Therefore, out state travel destinations in Missouri appear to be negatively affected by the higher gas prices. Longer driving distances, combined with less attractive recreational and entertainment amenities, may adversely affect tourism in out state Missouri. Higher fuel prices may cause people to prioritize among vacation destinations. People may not visit less well-known tourism destinations, electing instead to travel to major tourism centers. For example, Hannibal reports that hotel tax revenue is down from last year. However, lack of data makes any analysis anecdotal, and it is difficult to generalize statewide.

In sum, higher gas prices, over time, will be a drag on Missouri's economy. Results of this drag may include, but are not limited to, increases in production costs for industries such as pharmaceuticals, chemicals, airlines, energy, and others. Sustained high gas prices might also lead to an erosion of consumer confidence, causing cooling within the tourism industry and slow growth within the auto manufacturing industry, particularly in the making of recreational vehicles, sport utility vehicles, and related products. Finally, high gas prices, over time, might lead to an economic downturn due to resulting inflation, increased interest rates, and the loss of jobs.

IV. Refinery Profits

Refinery profits have increased significantly during the early summer months of 2000, particularly as compared to profits during the same period last year. As Bruce Lanni, analyst at CIBC World Markets, told USA Today "the majority of the profits did not come from the gas pumps. Earnings were really driven by the refining, or wholesale end of the business."

ExxonMobil, the largest oil company in America, reported that second-quarter earnings jumped 123%. Exxon earned $1.18 a share, which was 11 cents higher than most analysts had expected. Other companies also posted huge profits. Texaco's earnings more than doubled from $286 million during this quarter last year to $641 million this year. Phillips Petroleum company quadrupled its earnings from $108 million during the same period last year to $439 million during this quarter. Conoco posted similar increases with this quarter's earnings of $460 million quadrupling last year's $114 million. These are but some of the examples of huge oil company profits during the period.

While the refinery representatives pointed to many factors that may have allowed the companies to increase prices, there is little or no evidence that the cost to produce gasoline increased (except the cost to obtain crude oil as discussed elsewhere). Therefore, the price increases largely resulted in a transfer of income from consumers to refinery investors.

V. Illegal Activity and Collusion

While the Task Force did not uncover specific evidence of collusion, the Task Force is concerned about the growing level of consolidation in the oil industry. This trend toward concentration has been pronounced in recent years. In November 1999, ExxonMobil was formed under a Federal Trade Commission (FTC) consent agreement. In April 2000, a similar consent order led the formation of BP Amoco-ARCO. That entity is now known as BP.

These large-scale mergers of integrated oil producers have followed others with even more direct impacts on the Midwest. For example, Marathon and Ashland announced a merger of their refining and marketing assets in 1997. In January 1998 Shell and Texaco created a joint venture under the name Equilon Enterprises LLC, which combines both refining and marketing in the Midwest.

While the oil industry as a whole remains largely diverse and fractionalized, particularly on a global scale, this consolidation trend raises obvious concerns on the part of the Task Force members about the possibility of express or tacit collusion, "price signaling," and the possible use of strategic choke points to distort the normal workings of the market place.

Also of great concern is the widespread use of joint ventures and various other competitor collaborations at various points in the distributional chain, including pipeline operations. Such joint ventures and other teaming arrangements are, of course, not illegal in themselves, and may in certain circumstances be pro-competitive, but concerns are naturally raised when actual or potential competitors are partially foreclosed from competition by such ventures. This is particularly true in an environment in which the normal workings of the market may create or enhance market pricing power (as in the case of spot shortages created by external events such as the Explorer pipeline failure in March of this year). In such an instance, the foreclosure of alternative sources of supply of gasoline or other motor fuels may be exacerbated by the existence of joint ventures or other collaborative efforts.

As to the question of whether applicable federal and state laws have been followed by the market participants in the oil industry, the Task Force found no specific evidence of collusive conduct in the distribution and sale of motor fuel. However, our inquiry has necessarily relied in large measure on the voluntary cooperation of industry personnel. We have attempted to test the information from such sources against various independent sources. As constituted, the Task Force itself does not have compulsory legal process available to it.

The FTC has recently issued subpoenas and Investigative Demands to numerous refiners, operators of pipelines serving the Midwest markets, and others. The Attorney General, as Chair of this Task Force, has taken steps to gain access to the products of the FTC's investigation into Midwest Gasoline Pricing. We expect that the results of the FTC's inquiry, which is expected to extend at least over the next 90 days, will be of material assistance to this Task Force in reaching its own conclusions.

VI. Ethanol Fuel – A Domestically Produced Alternative

At the Kansas City task force public hearing, ethanol, a domestic produced engine fuel, was discussed as a potential answer to the higher prices of petroleum products. The Task Force received information and testimony indicating that wholesale costs for ethanol are competitive with wholesale gasoline costs.

Ethanol is a clean-burning, renewable, domestically produced product made from fermented agricultural products such as corn. Ethanol contains oxygen, which provides a cleaner and more efficient burn of the fuel. When used in vehicles, ethanol reduces carbon dioxide, a major contributor to global warming.

Only a few weeks ago, Missouri's first large-scale ethanol plant was placed into operation. Located in Macon, its producing 16.8 million gallons of ethanol per year, which is 112% of its original design capacity. This winter, a second plant of like capacity located in Craig, Missouri, is expected to start producing ethanol. A feasibility study has been completed in the Southeast area for a third site. These plants resulted from 1998 State legislation that provides $3 million in New Generation Cooperative Incentive Tax Credits. These tax credits were issued to Missouri producer/investors. This tax credits program will continue through year 2010. Currently, $6 million is available for ethanol and other new generation coop projects. In addition, $6 million has been appropriated in the Ethanol Producer's Incentive Fund to pay 20 cents per gallon for the first 15 million gallons of ethanol produced at each of these plants.

Missouri is ranked tenth in total corn production in the United States. Corn is Missouri's second largest crop, with nearly 300 million bushels of corn product annually. Corn is our nation's top crop. For each bushel of corn, between 2.5 to 2.7 gallons of ethanol can be produced as well as other wholesome byproducts. Since there is essentially no oil produced and no refineries located in Missouri, all gasoline has to be imported to the state making ethanol an attractive alternative to gasoline and diesel fuel. In addition, these new ethanol plants are located in the heart of Missouri's corn production areas. Our neighboring states also have several ethanol plants of

various sizes under construction. This creates a new market for our farm products and more jobs for Missourians.

All gasoline powered vehicles manufactured since the 1970s can run on a blend of ten percent ethanol and ninety percent gasoline. Although only about 10% of Missouri's service stations offer at least one grade of ethanol blended gasoline some states such as Minnesota, have ethanol in all grades of gasoline at nearly all of their service stations. Also, there are a significant number of flexible fuel vehicles on the road that will run on E85 ethanol (85% ethanol, 15% gasoline). When gasoline supplies run short and gasoline prices swing high, individuals owning these flexible fuel vehicles will continue to have the option of the lower cost E85.

E85 Fuel and Vehicles

The following vehicles are equipped to run on E85 fuel. These automobiles, called Flexible Fuel Vehicles (FFV), can run on a combination of up to 85% ethanol and gasoline. The Big Three automakers, Chrysler, Ford and General Motors, are expected to increase FFV offerings in future model years.

Flexible Fuel Vehicles Capable of Burning E85:

All 1999 & 2000 Ford 3.0-L Ranger pickups
All 1999 & 2000 Mazda 3.0-L B3000 pickups
All 2000 General Motors 2.2-L S-10 pickups
All 2000 GMC 2.2-L Sonoma pickups
All 1998-2000 Chrysler 3.3-L minivans
All 1998-2000 Dodge 3.3-L minivans
All 1998-2000 Plymouth 3.3-L minivans
All 2000 Ford 3.0-L Taurus LX sedans (and no cost option on SE and SES series)
Also available in Taurus FFV station wagon-style
Selected 1995-1999 3.0-L Taurus sedans

Flexible Fuel Vehicles Announced for Future Model Years:

2001 Ford 4.0-L Explorer, 2 door
2002 Ford 4.0-L Explorer FFV
2002 General Motors 5.3-L V8 Suburban SUVs
2002 General Motors 5.3-L V8 Tahoe SUVs
2002 GMC 5.3-L V8 Yukon and Yukon XL SUVs
2003 General Motors Avalanche, a four-door pickup with SUV traits

OxyDiesel - A New Ethanol Opportunity

OxyDiesel fuel is a liquid blend of low-sulfur No. 2 diesel fuel, 15% ethanol, and a small amount of a proprietary additive designed to stabilize the fuel and improve performance. OxyDiesel is currently being tested in the state of Illinois. For just a few pennies more, OxyDiesel could clean up emissions from diesel engines. This exciting new opportunity represents a potential market for approximately 700 million gallons of clean-burning ethanol per year nationwide.

VII. Fuel Efficiency

In light of increasing gasoline demand uncertainties about its affordable supply, it is prudent to consider public policies to alleviate the pressure of strong demand chasing uncertain supply.

Studies indicate that technologies exist to substantially raise fuel economy of passenger vehicles without sacrificing performance and safety.[6] Along with a variety of other economic and environmental benefits, increasing the fuel economy of cars and light trucks would reduce the growth rate of the state's demand for gasoline.

Fleet average fuel economy standards for new cars and light trucks (Corporate Average Fuel Economy or CAFÉ) have not been increased in over ten years. CAFÉ standards remain at 27.5 mpg for cars and 20.7 mpg for light trucks. Congress has blocked further studies on fuel economy improvements for the past five years.

Alternative fuel vehicles that run on electricity, natural gas, liquefied petroleum gas, methanol, soy diesel or ethanol have great potential to reduce demand for gasoline. Hybrid gasoline and electric vehicles are available to the public at comparable prices and offer fuel economies of 55 to 65 mpg. Vehicles operated by fuel cells, such as solar powered vehicles, also have great potential.

Transportation Alternatives

Alternative modes to traveling in a single-occupant vehicle (SOV) include car-pooling, public transportation (bus, rail, and light rail) and other modes such as bicycle and pedestrian travel.

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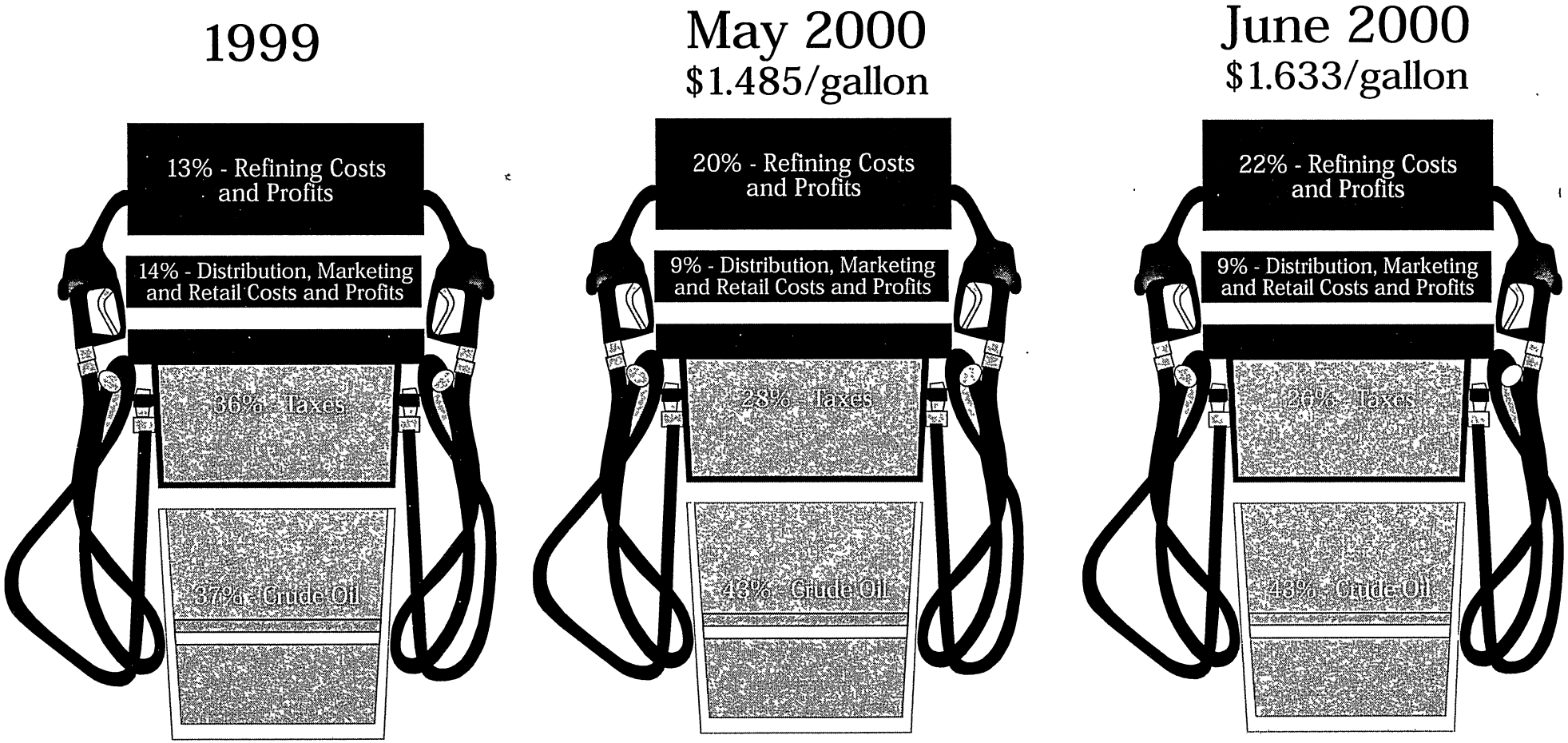
[6] NRC (1992). Automobile Fuel Economy: How Far Should We Go? National Research Council. Report of the Committee on Fuel Economy of Automobiles and Light Trucks. National Academy Press. Washington, DC. DeCicco, J.M. and M. Ross. 1993. An Updated Assessment of the Near-Term Potential for Improving Automotive Fuel Economy. Washington, DC: American council for an Energy Efficient Economy. Mark, Jason, November 1999. Greener SUVs: A Blueprint for Cleaner, More Efficient Light Trucks. Berkeley, California: Union of Concerned Scientists. July 1999.

Chart 1

What Do We Pay for in a Gallon of Regular Grade Gas?



Source: Energy Information Administration, Office of Oil and Gas

Missouri Department of Natural Resources

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